



# Forces Year 5

Key vocabulary	
<b>force</b>	A force is a push or a pull. Forces make objects start moving, stop moving, speed up, slow down or change direction.
<b>gravity</b>	A force which pulls things down towards the centre of the Earth.
<b>forcemeter</b>	Piece of equipment used to measure the size of a force.
<b>Newton (N)</b>	The unit for measuring force.
<b>air resistance</b>	The force that slows down objects that move through air.
<b>water resistance</b>	A force that slows down objects moving through water.
<b>friction</b>	When one surface moves against another, the rubbing force that tries to stop them is called friction. It gives us grip.
<b>mechanisms</b>	A device that allows a small force to be increased to a larger force.
<b>simple machines</b>	Levers, pulleys and gears are all types of simple machines.

## Real-life examples of forces in action



A skydiver falls fast until they open their parachute.






Dolphins have a streamlined shape.



A non-slip mat uses friction.



Seeds fall to the ground because of gravity.

Significant scientists	
Traditional	
<b>Galileo Galilei</b> <i>(1564-1642)</i> 	He was an Italian scientist. He discovered that if two objects of similar shape and size are dropped, they will fall at the same rate.
<b>Sir Isaac Newton</b> <i>(1642-1726)</i> 	He was an English scientist and mathematician. He 'discovered' the concept of gravity when sitting under a tree and an apple fell to the ground near him.
Contemporary	
<b>Tahani Amer</b> <i>(born 1965)</i> 	<b>Tahani Amer</b> is an Egyptian aerospace engineer who works for the Earth Science Division of NASA Headquarters' Science Mission Directorate.

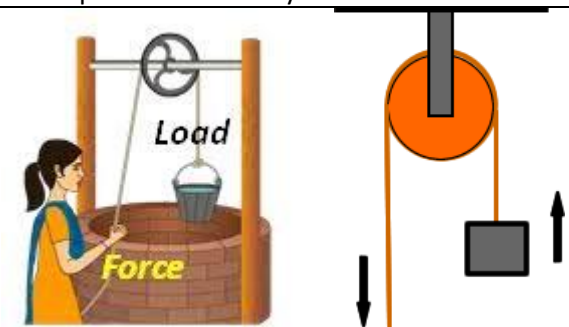
## Sticky Knowledge: simple machines

These are used to make tasks easier. This means you need to use less force.



Force Pivot

A **lever** tilts on a pivot which is nearer to the end of the pivot with a heavy load.



**Pulleys** have a rope or cable which goes over a wheel. This is pulled to lift, lower or move heavy objects.



**Gears** are toothed wheels which lock together and turn each other to form simple machines.